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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,775	12/19/2001	Peter J. Janssen	US010551	3937

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EXAMINER

CURTIS, CRAIG

ART UNIT PAPER NUMBER

2872

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,775

Applicant(s)

JANSSEN, PETER J.

Examiner

Craig H. Curtis

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Detailed Action

Disposition of the Instant Application

- This Office action is responsive to Applicant's Amendment A filed on 17 October 2003, which has been made of record in the file as Paper No. 4.
- By this amendment, Applicants have amended independent claims 1 and 7.
- The objection to the drawings is hereby withdrawn in response to the submission, by Applicant, of proposed drawing changes, which have been approved by the Examiner.
- Claims 1-11 are currently pending in the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admitted Prior Art (Figs. 1A, 2A, and 2B) in view of and Ho et al. (6,512,502) and Vanderwerf (5,995,284).**

With regard to claim 1, Applicant's Admitted Prior Art discloses the invention as claimed--a method of converting an input beam of non-polarized light (e.g., 10 in Fig. 1A) having a waist of predetermined height and width in a predetermined plane (both inherent) to an output beam of polarized light having a geometrical extent increased from that of said input

beam by no more than a factor of two (See either of the beams identified by "OUTPUT BEAM S POLARIZED" in Fig. 1A; in either instance, said factor being one), said method comprising:

a) positioning a polarizing beam splitter with an input surface having a height and width equal to a predetermined height and width in a predetermined plane, thereby dividing said input beam into perpendicular P and S polarized components (N.B., polarization beam splitter being identified in the specification as interface (read: polarization beam splitter) 14, not as prism elements whose hypotenuses abut polarization beam splitter 14);

b) passing said P component light beam through a $\frac{1}{2}$ wave retarder, whereby the light beam exiting said $\frac{1}{2}$ wave retarder has the same polarization as said S component light beam (See Fig. 1A);

c) positioning a turning prism (right angle prism whose hypotenuse is 16) in the path of said S component light beam to direct said S component light beam passed therethrough parallel to and laterally adjacent said P component light beam exiting said $\frac{1}{2}$ wave retarder, said P and S component light beams exiting said $\frac{1}{2}$ wave retarder and said prism jointly[,] forming an output beam having a geometrical extent exceeding that of said input beam by a factor of substantially two (See Fig. 1A) ;

d) confining said P and S components by total internal reflection (TIR) in said polarizing beam splitter and said prism, respectively (in an identical manner to that exhibited by the method of the instant invention)—**EXCEPT FOR** explicit teachings of the following newly recited method steps (please refer to the previous Office action with regard to the teachings of the instant invention specifically met by Applicant's Admitted Prior Art and the Ho et al. reference):

e) said turning prism being spaced from contact with said polarizing beam splitter;

f) totally internally reflecting said P component in said polarizing beam splitter and said S component in said turning prism;

Vanderwerf, however, teaches both wherein a turning prism (88 or 90 in Fig. 12) is spaced from contact with said polarizing beam splitter, and wherein said P component is totally internally reflected in said polarizing beam splitter (see Fig. 2) and said S component is totally internally reflected in said turning prism (see Fig. 12). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the invention of Applicant's Admitted Prior Art in view of both Ho et al. (as set forth in the previous Office action) and Vanderwerf, for at least the purpose of achieving desired polarization conversion via a compact system geometry.

Response to Arguments

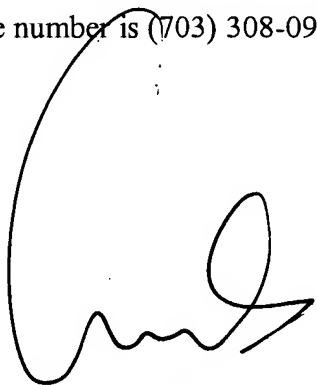
2. Applicant's arguments with respect to claims 1-11 filed on 17 October 2003 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Curtis, whose telephone number is (571) 272-2311. The centralized facsimile phone number for the USPTO is (703) 872-9306.

Any inquiry of a general nature regarding the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-0956.

CHC.
Craig H. Curtis
Group Art Unit 2872
22 December 2003



**Audrey Chang
Primary Examiner
Technology Center 2800**